

## CLAIMS

1. A method comprising:  
tuning a receiver to a first of a plurality of channels within a received broadband signal;  
5 searching for a pilot tone within the tuned channel; and  
updating one or more operating parameters of a cable modem to denote the tuned channel  
is a data channel if the pilot tone is detected.
2. A method according to claim 1, further comprising:  
tuning the receiver to a next of the plurality of channels within the received broadband  
10 signal if the pilot tone is not detected; and  
repeating the searching, updating and tuning steps on subsequent channels until a pilot  
tone denoting a data channel is identified.
3. A method according to claim 1, wherein searching for the pilot tone comprises:  
analyzing channel channel components to detect a baseband frequency offset in one or  
15 more of the channel components.
4. A method according to claim 3, wherein the pilot tone is a continuous wave (CW) tone  
20 added to one or more of the in-phase component and/or quadrature-phase component of the  
channel in baseband prior to combining of the components for modulation and transmission.
5. A method according to claim 4, wherein analyzing the channel comprises:  
demodulating channel content; and

determining whether the channel includes a CW tone in one or more of the in-phase (I) and/or quadrature-phase (Q) component(s) of the channel, wherein the tone in either of the component is an indication that the channel is a data channel.

5        6.        A method according to claim 1, wherein searching for the pilot tone comprises:  
analyzing the channel to detect a baseband frequency offset in one of the channel components.

7.        A method according to claim 1, wherein updating one or more parameters comprises:  
communicating one or more data channel parameters to control logic of the cable modem.

8.        A method according to claim 7, wherein the data channel parameters include one or more of an radio frequency (RF) frequency of the channel, modulation attribute(s) of the channel, channel bandwidth, a status of the channel, and the like.

9.        A machine accessible storage medium comprising a plurality of executable instructions which, when executed by an accessing machine, cause the machine to implement a method according to claim 1.

20       10.       A computing system comprising:  
a storage medium including a plurality of executable instructions; and  
a control unit, coupled to the storage medium, to execute at least a subset of the plurality of executable instructions to implement a data channel detection agent, wherein the data channel detection agent tunes a receiver to a first of a plurality of channels within a received broadband  
25       signal, searches for a pilot tone within the tuned channel, and updates one or more operating

parameters of a cable modem to denote the tuned channel is a data channel if the pilot tone is detected.

11. A computing system according to claim 10, wherein the channel detection agent tunes the receiver to a next of the plurality of channels within the received broadband signal if the pilot tone is not detected within the channel.

12. A computing system according to claim 10, wherein the data channel detection agent analyzes demodulated channel components to identify the pilot tone within the channel.

13. A computing system according to claim 12, wherein channel detection agent causes a receiver to demodulate the channel content to determine whether a demodulated representation of the channel includes a continuous wave (CW) tone in one or more of the channel components.

14. A computing system according to claim 13, wherein the channel is a quadrature amplitude modulated (QAM) signal and the channel components include an in-phase (I) component and a quadrature-phase (Q) component, and wherein the CW tone is introduced as a baseband frequency offset in one or more of the channel components prior to combining and modulation of the channel components.

15. A computing system according to claim 14, wherein the channel detection agent analyzes one or more of the I- and Q-phase components of the channel to detect a CW tone in the component(s).

16. A computing system according to claim 15, wherein identifying a CW tone denotes that the channel is a data channel.

17. A computing system according to claim 10, wherein the channel detection agent analyzes the channel for a baseband frequency offset in one or more of the channel components which distinguishes a data channel from another digital channel.

18. A computing system according to claim 10, wherein the channel detection agent updates the cable modem to denote that the channel comprising the pilot tone is an active data channel.

19. A computing system according to claim 10, wherein the one or more operating parameters include any one or more of an radio frequency (RF) carrier frequency, modulation attribute(s) of the channel, channel bandwidth, and/or channel status information.

20. A machine accessible storage medium comprising a plurality of executable instructions including at least a subset of which that when executed by an accessing machine cause the machine to implement a channel detection agent to tune a receiver to a first of a plurality of channels within a received broadband signal, to search for a pilot tone within the tuned channel, and to update one or more operating parameters of a cable modem to denote the tuned channel is a data channel if the pilot tone is detected.

21. A machine accessible storage medium according to claim 20, wherein the instructions to implement the channel detection agent include instructions to tune the receiver to a next of the plurality of channels within the received broadband signal if the pilot tone is not detected within the channel.

22. A machine accessible storage medium according to claim 20, wherein the instructions to implement the channel detection agent include instructions to cause a receiver to demodulate the channel and identify a continuous wave (CW) tone modulated therein.

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23. A machine accessible storage medium according to claim 22, wherein the instructions to implement the channel detection agent include instructions to cause a quadrature amplitude modulation (QAM) to recover in-phase (I) and quadrature-phase (Q) components of the channel to detect the CW tone in one or more of the recovered components.

24. A machine accessible storage medium according to claim 23, wherein the instructions to implement the channel detection agent include instructions to demodulate the channel into its constituent components and detect a baseband frequency offset in one or more of the components denoting the presence of the CW tone.

25. A machine accessible storage medium according to claim 20, wherein the instructions to implement the channel detection agent include instructions to communicate one or more channel attributes of the data channel, detected as comprising a continuous wave (CW) tone, to control logic of the cable modem.

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26. A machine accessible storage medium according to claim 25, wherein the instructions to communicate include instructions to provide one or more of a radio frequency (RF) carrier frequency value, channel bandwidth information, and/or modulation attribute(s).

27. A machine accessible storage medium according to claim 20, wherein the instructions are accessed and executed by a cable modem to implement the channel detection agent.

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EL034439215US